

Amendments to the Claims begin on page 2 of this Amendment.

Remarks/Arguments begin on page 10 of this Amendment

AMENDMENTS TO THE CLAIMS:

Please cancel claims 1-13, without prejudice. Kindly amend claims 14-47, as shown below.

This listing of claims will replace all prior versions and listings of claims in the Application:

Claim 1-13 (canceled):

Claim 14 (previously presented): A mold comprising:

a) a shell comprising a cavity side and a back side, wherein said cavity side defines a mold cavity;

b) a resistive heater comprising a resistive element and an electrically insulating element, wherein said heater is shaped to conform to at least a portion of said back side of said shell, and said heater is in conformal contact with said back side of said shell; and

c) a housing capable of physically supporting said shell and said heater, wherein said heater is disposed between said shell and said housing.

Claim 15 (previously presented): The mold of claim 14, wherein said resistive heater in step (b) is adhered to at least a portion of said back side of said shell.

HAYES SOLOWAY P.C.

130 W. CUSHING ST.
TUCSON, AZ 85701
TEL. 520.882.7623
FAX. 520.882.7643

175 CANAL STREET
MANCHESTER, NH 03101
TEL. 603.668.1400
FAX. 603.668.8567

Claim 16 (previously presented): The mold of claim 14, wherein said resistive heater in step (b) is not adhered to said shell.

Claim 17 (previously presented): The mold of claim 14, further comprising a thermal barrier element disposed between said heater and said housing.

Claim 18 (previously presented): The mold of claim 14, further comprising a cooling jacket.

Claim 19 (previously presented): The mold of claim 14, wherein said resistive heater is coupled to a power supply, wherein application of current from said power supply results in production of heat by said resistive element.

Claim 20 (previously presented): The mold of claim 14, wherein an electrically insulating element is disposed between said resistive element and said back side.

Claim 21 (previously presented): The mold of claim 14, wherein an electrically insulating element is disposed between said housing and said resistive element.

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Claim 22 (previously presented): The mold of claim 14, further comprising one or more additional heaters.

Claim 23 (currently amended): The mold of claim 22, wherein said one or more additional heaters are in conformal contact with said back ~~said~~ side.

Claim 24 (previously presented): The mold of claim 22, wherein at least a portion of said heater of (b) is disposed between at least a portion of said one or more additional heaters and said back side.

Claim 25 (previously presented): The mold of claim 14, further comprising one or more thermal sensors.

Claim 26 (previously presented): The mold of claim 25, wherein said thermal sensors comprise an array of thermocouples.

Claim 27 (previously presented): A method of making a molded product, said method comprising the steps of:

a) providing a mold comprising:

i) a shell comprising a cavity side and a back side, wherein said cavity side defines a mold cavity;

HAYES SOLOWAY P.C.
130 W. CUSHING ST.
TUCSON, AZ 85701
TEL. 520.882.7623
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—
175 CANAL STREET
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ii) a resistive heater comprising a resistive element and an electrically insulating element, wherein said heater is shaped to conform to at least a portion of said back side of said shell, and said heater is in conformal contact with said back side of said shell; and

iii) a housing capable of physically supporting said shell and said heater, wherein said heater is disposed between said shell and said housing;

b) heating said resistive heater by the application of current; and

c) injecting a material to be molded into said mold, wherein said heated resistive heater regulates the solidification of said material, thereby forming said molded product.

Claim 28 (previously presented): The method of claim 27, wherein said mold further comprises a cooling jacket.

Claim 29 (previously presented): The method of claim 27, further comprising step (d) cooling said material in said mold.

Claim 30 (previously presented): The method of claim 27, wherein said material is a thermoplastic material, thermoset material, metal, ceramic, cermet, glass, or combination thereof.

Claim 31 (previously presented): A method of making a mold, said method comprising the steps of:

a) providing a shell comprising a cavity side and a back side and a housing capable of physically supporting said shell, wherein said cavity side defines a mold cavity; and

b) depositing a resistive element on at least a portion of said back side, wherein when said shell is supported by said housing, said resistive element is disposed between said shell and said housing.

Claim 32 (previously presented): The method of claim 31, further comprising the steps of:

c) forming an electrically isolated, resistive heater path in said resistive element; and
d) connecting said resistive heater path of step (c) to a power supply, thereby fabricating a resistive heater.

Claim 33 (previously presented): The method of claim 32, wherein said forming in step (c) is by micromachining, microabrading, laser cutting, chemical etching, or e-beam etching.

Claim 34 (previously presented): The method of claim 31, further comprising the step, prior to step (b), of depositing an electrically insulating element on at least a portion of said back side of said shell.

Claims 35 (previously presented): The method of claim 31 further comprising the step of:

(c) depositing a thermal barrier element on at least a portion of said resistive element.

HAYES SOLOWAY P.C.
130 W. CUSHING ST.
TUCSON, AZ 85701
TEL. 520.882.7623
FAX. 520.882.7643

175 CANAL STREET
MANCHESTER, NH 03101
TEL. 603.668.1400
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Claim 36 (previously presented): The method of claim 31, wherein said shell is produced by electroplating, electroless deposition, molding, spray forming, machining, CVD or PVD.

Claim 37 (previously presented): A method of making a mold, said method comprising the steps of:

(a) providing a shell comprising a cavity side and a back side and a housing capable of physically supporting said shell, wherein said cavity side defines a mold cavity; and

(b) forming a resistive heater that has a shape that is conformal to at least a portion of said back side, wherein when said shell and said resistive heater are supported by said housing, said resistive element is disposed between said shell and said housing.

Claim 38 (previously presented): The method of 37, wherein said forming in step (b) comprises:

i) depositing a resistive element on at least a portion of an object replicating at least a portion of the shape of said back side; and

ii) removing said resistive element from said object.

Claim 39 (previously presented): The method of 38, further comprising depositing an electrically insulating element on at least a portion of said object prior to step (i), wherein said removing in step (ii) also removes said electrically insulating element.

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130 W. CUSHING ST.
TUCSON, AZ 85701
TEL. 520.882.7623
FAX. 520.882.7643

175 CANAL STREET
MANCHESTER, NH 03101
TEL. 603.668.1400
FAX. 603.668.8567

Claim 40 (previously presented): The method of 38, further comprising depositing an electrically insulating element on at least a portion of said resistive element, before or after step (ii).

Claim 41 (previously presented): The method of 38, further comprising depositing a thermal barrier element on at least a portion of said resistive element, before or after step (ii).

Claim 42 (previously presented): The method of 38, wherein said depositing comprises thermal spraying.

Claim 43 (previously presented): The method of 37, wherein said forming in step (b) comprises:

- i) providing a second shell having a shape conformal to at least a portion of said back side; and
- ii) depositing a resistive element on said second shell.

Claim 44 (previously presented): The method of 43, further comprising depositing an electrically insulating element on at least a portion of said second shell prior to step (ii).

Claim 45 (previously presented): The method of 43, further comprising depositing an electrically insulating element on at least a portion of said resistive element.

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FAX. 520.882.7643

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FAX. 603.668.8567

Claim 46 (previously presented): The method of 43, further comprising depositing a thermal barrier element on at least a portion of said resistive element.

Claim 47 (previously presented): The method of 43, wherein said depositing comprises thermal spraying.

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